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DATE: April 30, 2012

TO: Kelley Chase, EPA Region 3 OSC  
Cynthia Caporale, EPA Region 3 OASQA

THROUGH: **Ex. 4 - CBI** SERAS Program Manager  
**Ex. 4 - CBI** SERAS QA/QC Officer

FROM: **Ex. 4 - CBI** QA/QC Chemist

SUBJECT: VERIFICATION/COMPLETENESS CHECK – DIMOCK, PA LABORATORY DATA  
File NAREL 1100243-U.pdf

## INTRODUCTION

On April 30, 2012, a review of the case narratives and corresponding certificates of analysis from the U.S. EPA National Air and Radiation Environmental Laboratory (NAREL Reports Posted April 18) was conducted at the SERAS facility in accordance with the Follow-Up Verification/Completeness Check agreed upon during our teleconference on Wednesday 2/8/12.

The assumptions for this review include the following: 1) Case narratives from the EPA and Regional labs and/or subcontract labs have been reviewed in accordance with EPA, Regional or Environmental Services Assessment Team (ESAT) protocols and contain all pertinent and complete information to conduct the completeness check. SERAS will base this review on the information provided by the laboratory and not on an actual data package; and 2) SERAS will relay any “red” flags to the EPA R3 personnel to resolve and determine data usability.

## OBSERVATIONS

In accordance with Table 1 – Field and QC Sampling Summary (Rev01 - 2/3/12), Table 2 – Sample Analytical Requirements Summary (Rev01 – 2/3/12), Methods for Groundwater and Surface Water, NAREL AM/SOP-1 Actinides in Environmental Matrices by Extraction Chromatography and the validation guidelines developed by SERAS for radiochemical data (using critical value of 1.65), the following observations were noted and need to be clarified/resolved.

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1. Raw data were not provided: therefore, it is assumed that all sample, method blank and QC results (LCS, Duplicates) were correctly transferred to the analytical result tables.
2. Only 1 equipment blank (1/28/12) was shipped with this sampling batch. No qualifications could be made on this equipment blank because it could not be determined which samples it was associated with.
3. The sample result is greater than the  $2\sigma$  uncertainty but less than the MDC and the uncertainty multiplied by 1.65 is greater than the MDC indicating that the MDC may be reported too low. The following result should be qualified non-detect “UJ” in the result column in Scribe: U234 for samples HW24-P, EB01, HW01 and HW24.
4. The absolute value of the sample was less than the  $2\sigma$  uncertainty. The following results should be qualified as non-detect “U” in the result column in Scribe: U235 for sample HW19.
5. The sample result was less than the  $2\sigma$  uncertainty and the MDC and the uncertainty multiplied by 1.65 is greater than the MDC indicating that the MDC may be reported too low. The following results should be qualified non-detect “UJ” in the result column in Scribe: U234 for samples FB01, FB05, FB03, FB04 and FB02; U235 for samples HW19-P, FB03, HW01, HW02, HW08A, HW05, HW12 and HW24; and U238 for samples HW19-P, HW24-P, FB03, HW01, HW08A, FB04, EB01 and HW24.
6. The following sample results failed the NAD criteria (based on the method blank or field blank). U235

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- for samples FB01, FB05, HW24-P, HW02Z, HW04, HW14, HW14P, FB04, EB01, HW17 and FB02; U238 for samples FB01, HW19, FB05, HW14, HW14P and FB02; and U234 for samples HW19, HW19-P, HW08A, HW14 and HW14P should be qualified estimated “J” in the result column in Scribe.
7. It is assumed that all required instrument/system criteria were met by the laboratory or had no impact on the data.

cc: **Ex. 4 - CBI**, SERAS Project Officer  
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